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ON THE COVERNorthern Cardinal

by Noppadol Paothong



Your guide to all the VNVSVAL, VNIQVE, AND VNBELIEVABLE stuff that goes on in nature



Curled up under layers of leaves, most WOOLLY BEARS freeze solid during winter. Antifreeze-like fluids keep their bodies from being damaged.
When the ground thaws in spring, so do the fuzzy, little caterpillars.

In the fall, SQUIRRELS have just one thought in their furry heads: gathering enough nuts for winter.

Although the bushy-tailed hoarders can collect nearly 100 pounds of acorns, blue jays and other nut-munchers

steal nearly a quarter of the stash.

Need a new leg? No problem. Lose your arm? No claws for alarm.
That is, if you're a CRAYFISH. The armor-covered crustaceans have an amazing ability to regrow limbs that are damaged or lost to predators.



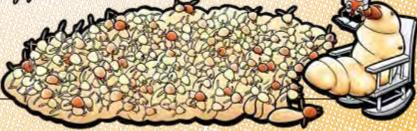
Ninety-five percent of the GRAY BATS in the whole wide world hibernate in just nine caves every winter. Several of those hibernation hangouts are located in — or rather, under — Missouri.



In a scary-movie display of flexibility, an OWL can turn its head 270 degrees — almost all the way around. This means the mouse-munching bird can look to the left by turning its head to the right!



Whoa, baby! A TERMITE QUEEN can lay up to 30,000 eggs per day. That's nearly 11 million eggs in a year. Queens can live 20 years or longer. So over a lifetime, a single queen can produce 220 million babies!

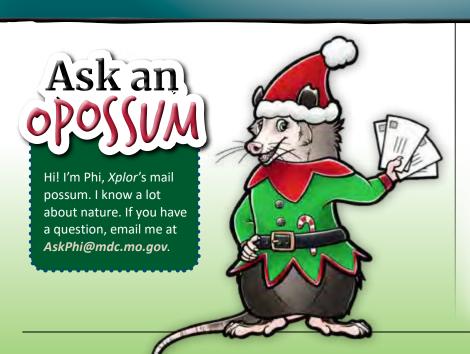


DON'T KNOW? Jump to page 21 to find out.

WHAT ISO)

- 1 My smile might fill you with dread.
- 2 And I can grow as long as a bed.
- 3 Armor covers my tail to my head.
- 4 I live in water that makes other fish dead.





Q: Why do coyotes howl at night? — From Lily, age 9

A: Because no one would hear them if they whispered! Coyotes also bark, yip, velp, whimper, and growl. You usually hear them at night, but they sometimes let loose during the day. When one raises a ruckus, nearby covotes often join in. Their racket can be heard more than 3 miles away! Although it sounds spooky, there's nothing to fear. Howling is how coyotes talk to each other. It's how they say, "I'm lonely," "Stay away," or "Let's find some rabbits to eat."



ADJUST THE EYE CUPS

- First things first: Binoculars cost a lot. You don't want to drop them! Put the neck strap over your head so the binocs hang securely from your neck.
- Most binoculars have adjustable eye cups. They help hold your eyes at the right distance from the lens.
- · Adjusting the eye cups is easy. If they're made of soft rubber, the rim of the eye cup folds up and down. If they're made of harder material, they twist in and out. If you wear glasses, the eye cups should be down. If you don't wear glasses, the eye cups should be up.

ADJUST THE FIT

The sides of the binoculars (the barrels) swing up and down on a hinge. To get the binoculars to fit your face, gently pull the barrels as far apart as they'll go. Lift the binocs up to your eyes. You'll

probably see two separate images (one through each eye). Slowly squeeze the barrels together until you see only one image — a perfect circle. Now you're ready to find something to look at.



Let's say you spot a bird and want to look at it through your binoculars. The key is to keep your eyes on the bird and not on your binocs.

Find the bird with your bare eyes. Without taking them off your feathered friend, lift the binoculars up to your eyes. The bird should appear in the center of the image.

If you don't see it, lower the binoculars and try again. REMEMBER: Don't look at the binocs, keep your eyes glued to that bird!

FOCUS

Once you've found the bird in your binoculars, it will probably look fuzzy and out of focus. Don't worry, it's easy to fix. Simply turn the focus wheel one way or the other until the image becomes clear and sharp. With practice, you'll be able to find what you're looking for and focus the binoculars in one smooth motion.



reed something fun to do on the long drive to grandma's house?
Or a joke to tell to Uncle Mark?
Xplor's here to help with some wild and wacky puzzles and jokes.







RESHAIRFOX REEASOUOUTS IDEOPLANTROCK RAIRIEDWOODLAND TERNANR ISHINGESUNRI ENCEIBEOEXPLOREDNATU ORFULFOFWHILLANDOR M O M S T R E A M I I W I D A D W I N D R D U C K SWAMPMOUSECAONOAKTREEIBAT TLESNAKEEIOGSPARROWOOF OWERNADOCAT EBEARTISWOUTD URKEYDEERFITLFEATH LMEADOWLRAORACCOON ONTAILSIAIARCOYO OOBYDOGMONGAKXP BUTTERFLYWRENPHOTABOB ONSERVATIONAKCOLDTSK INGANIMALINESTSEF INGSPRINGNSUMMERBMDC LLHOARYREDPOLLCAVESION U R I V O L I S H U M M I N G B I R D P O N D R I L W I N T E R C R E S T E D C A R A C A R A E L D L S A L A M A N D E R L A R G E M O U T H B A S S

Brown booby Burrowing owl Crested caracara Hoary redpoll Hooded oriole Ivory gull Limpkin Magnificent frigatebird Rivoli's hummingbird Vermilion flycatcher Wood stork

(TURN TO PAGE 9 FOR THE ANSWER KEY.)



Winter is tough on wild animals. Some mammals cope with cold by curling up in cozy dens to sleep. Many birds fly south where weather is warmer and more food can be found. Critters that stick around must work hard to find food. By late winter, seeds that plant-eating animals had squirreled

away have been eaten. And meat eaters must spend extra time hunting because their prey hunkers down when temperatures drop.

PLAY

These hungry animals are hunting for food. Can you figure out where they have been?

Draw a line from each critter's start to its finish using only the spaces that contain facts about the animal.

Hint: You can use the same

fact for more than one animal.

Hawk FINISH

> Missouri's fastest mammal

Bobcat START Has wings

legs

Four

Feathers

Straight

beak

Sharp talons

Blue Jay

START

Soars in circles

hooked

beak

Bushy tail

Eats meat Dog family

Squirrel FINISH

Furry

START

Stores acorns

Scurries up trees Rodent family

Retractable claws

Purrs

Yips, barks, and howls

Blue Jay FINISH Noisy, scolding call Raises crest when upset

Large ears Often prey for predators

Stubby tail Nibbles plants

Coyote START

Swims

Has fins Stays on the ground

Squirrel START Cat family Rabbit START

Has scales

FIN

Rabbit FINISH Bobcal FINISH

(TURN TO PAGE 9 FOR THE ANSWER KEY.)

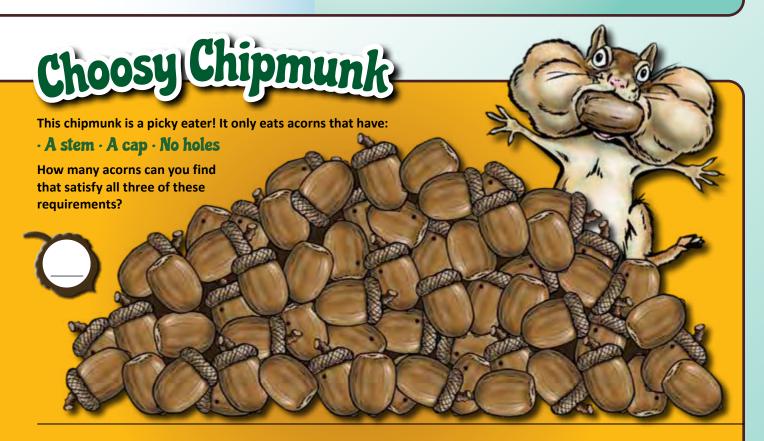


whoops! Whoever wrote this story left out a few words. Fill in the list, then match each word to its corresponding

number in the story. Some words in the list will be used more than once in the story.

1. PLACE
2. PERSON'S FIRST NAME
3. FOOD (PLURAL)
4. BODY PART
5. NUMBER (FROM 1 TO 12)
6. EMOTION
7. ANIMAL
8. ANIMAL
9. BODY PART
10. VERB ENDING IN -ING
11. FAMILY MEMBER
12. FOOD
13. ANIMAL
14. ADVERB ENDING IN -ILY
15. EXCLAMATION
16. VERB ENDING IN -ED

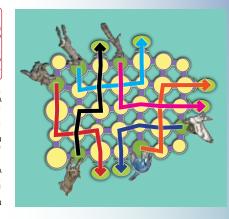
Once, while winter camping at (1), my buddy													
(2)fell asleep with a box of (3)													
balanced on their (4) I knew having food in													
the tent was a no-no, but I was too tired to put it in the bear													
canister.													
At (5)a.m., I awoke with a start. Beside													
me, (2)snored like a (6)													
(7) The inside of the tent was as dark													
as a (8) Just as I was													
(10)back to sleep, I heard something. The													
noise reminded me of the time I caught my (11)													
nibbling (12)swiped from my secret stash.													
I flicked on my flashlight. Frozen in the beam, sitting													
atop (2), s chest, was a (13),													
(14)munching (3)													
"(15)!" I yelled, and the (13)													
(16)away.													
And how did my buddy react? (2)slept													
through the whole thing!													



CHOO2A CHIBMONK - T3



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A long, bushy tail helps a fox balance during mouse pounces and acts like a blanket on chilly nights.

LETHAL LEAP

A fox's oversized ears can hear a rodent rustling from 100 feet away.

SUPERHERO

HEARING

Sproing! A fox can leap the length of a living room and pounce with pinpoint accuracy.



SHOW-IME

Missouri
is often
visited by UFOs

just not the
kind filled with
little green aliens.

UFOs are spotted every year in the Show-Me State. But these "uncommon flying objects" aren't silver space saucers. They're birds.

You see, every animal has a certain area of the world in which it prefers to live. Birds are no exception. For example, many kinds of penguins live only in Antarctica. Unlike penguins, however, most birds can fly. And this means they can turn up hundreds, sometimes thousands, of miles away from where they're normally found.

Here are a few of the most recent uncommon flying objects that have wandered far from home and ended up in the Show-Me State.

LIMPKIN

In all the years —
decade after decade —
birdwatchers have been
keeping records, no one had
ever spotted a limpkin in Missouri.

Which made sense. The brown, long-legged waders love to eat apple snails. And the closest place apple snails are found is Florida. But in 2022, limpkins were spotted in nearly a dozen places across the Show-Me State. One even made an appearance in the middle of St. Louis! It was spotted in September, wading around the pools of the Missouri Botanical Garden.

FAR-OUT FACT

A limpkin's bill is curved downward and the tip bends slightly to the right. This twisty-turvy schnoz helps the bird pluck snails out of their shells.



FAR-OUT FACT

Brown boobies often hunt near moving boats, hoping to snap up flying fish and other seafood stirred up by the boat's passage.

City to St. Louis.



RIVOLI'S Hummingbird

With emerald-colored throats and purple-colored crowns, Rivoli's hummingbirds shimmer like flying gemstones. The large, long-beaked hummers typically hang out in the mountains of Mexico. In the U.S., they're found in only the extreme southern edges of Arizona and New Mexico. But in June 2020, one wayward hummer took an extended road trip to Missouri and was spotted near a house south of Springfield. It's the only Rivoli's hummingbird ever recorded in the Show-Me State.

FAR-OUT FACT

Rivoli's hummingbirds have a hard-working heart! It beats up to 1,200 times a minute, one of the highest heart rates ever recorded for an animal.

HOODED

A female hooded oriole uses her sharp beak to poke holes in palm leaves from below. Then she pushes grasses and plant fibers up through the holes and stitches them to the leaf. Last, she weaves the fibers into a hanging nest for her eggs and babies. It's an amazing process, but you can't see it in Missouri. Hooded orioles nest in Mexico, California, and southwestern states. Only one of the sunshine-colored birds has ever strayed into the Show-Me State. It was seen in 2015 at a house in Columbia.

FAR-OUT FACT

Hooded orioles in Texas and eastern Mexico are flame-orange.
Those living in California and western Mexico are sunshine-yellow.



BURROWING OWL

If you've read Hoot by Carl Hiaasen, you know about burrowing owls. (And if you haven't read the book, you should!) The sand-colored, longlegged, day-hunting owls nest in underground burrows. In the U.S., they're typically found in western states (where they live in prairie dog holes) and Florida (where they live in burrows dug by tortoises). Ever so often, one of the little owls shows up in the Show-Me State. The most recent sighting was in March at Shawnee Trail Conservation Area north of Joplin.

FAR-OUT FACT

Burrowing owls lay out a weird welcome mat. Before nesting, they carpet the entrance to their tunnel with animal poop. This attracts dung beetles, which the owls eat.

VERMILION FLYCATCHER

A vermilion flycatcher spends its day sitting on a fence post, watching for insects. When an unlucky bug buzzes by, the

flycatcher flutters off its perch to nab a snack. They nest in grasslands, shrubby areas, and deserts of southwestern states like Texas, New Mexico, and Arizona. The flame-colored flyers sparked interest among Missouri's birdwatchers when not one but three turned up in the state in 2019. Others have been seen since then, most recently in 2021 near New Madrid.

FAR-OUT FACT

The vermilion flycatcher's scientific name, Pyrocephalus rubinus, literally means "red fire-head."



CRESTED CARACARA

Often called "Mexican eagles," crested caracaras aren't common north of the border. In the U.S., they're mostly seen in Texas.
Though they look like hawks (or eagles), they're more closely related to falcons, like peregrines and kestrels. And they share their favorite food — carrion (already dead animals) — with vultures.
This mixed-up bird has been seen in Missouri only twice. The most recent sighting was in 2017 along the Mississippi River in the Bootheel.

FAR-OUT FACT

Despite their hefty beaks, crested caracaras aren't able to peck open thick-skinned animals. They have to wait for vultures or larger animals to open up their meals.

HOARY REDPOLL

Hoary redpolls are related to purple finches. But hoary redpolls live on the northern tundra and brave winter weather that would turn a purple finch blue. Redpolls are so well-insulated that when a rare warm spell hits the Arctic, they pluck out their fluffiest feathers to avoid overheating. They've been seen in Missouri only three times. The last sighting was in 2015 at a house east of Kirksville.

FAR-OUT FACT

Similar to how a chipmunk packs its cheeks with nuts, a redpoll can fill its guts with seeds. When it's in a safe spot, it spits up the seeds and cracks them open to eat.



Magnificent frigatebirds are pirates of the bird world. They patrol the coasts, swooping down to steal food from other birds in midair. In 2020, an unlucky frigatebird got swept north by Hurricane Laura and was spotted in Missouri near St. Charles. As far as anyone knows, only two of these sky pirates have been seen in the Show-Me State.

FAR-OUT FACT

Frigatebirds sometimes harass other birds until they throw up. The frigatebird then catches and eats the barfed-up seafood. Nothing sounds magnificent about that!



Wood storks don't deliver babies, but they do bring joy to any birdwatcher lucky enough to spot one. Your best chance to see these

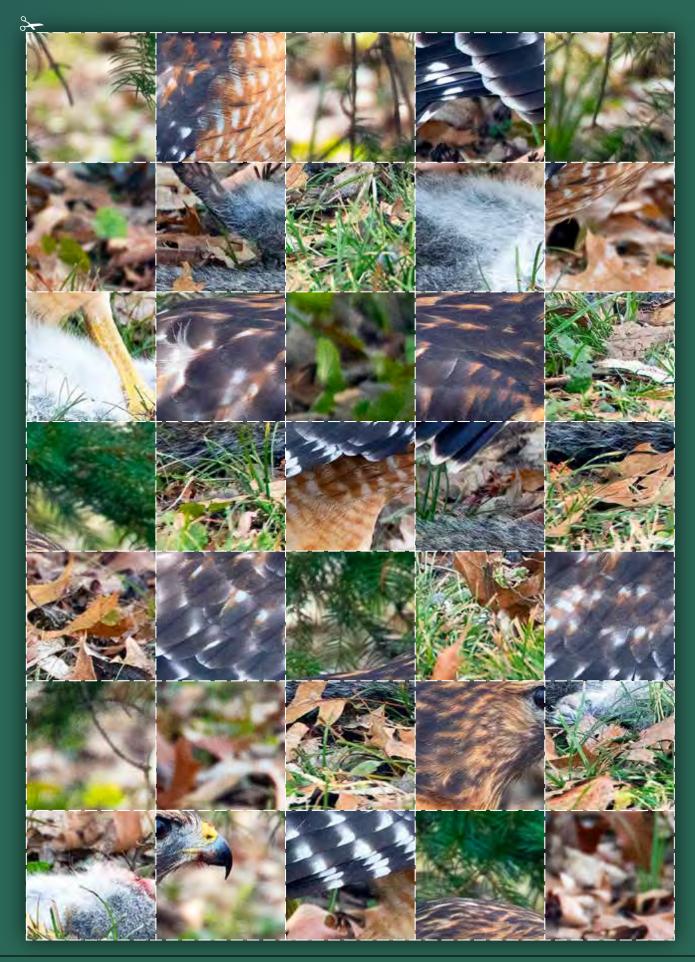
bald-headed, long-legged wading birds is to visit a swamp in Florida, Georgia, or South Carolina. Even though Missouri's Bootheel has its share of swamps, wood storks have been seen in the state only about 10 times. The latest sighting was in 2021 at Four Rivers Conservation Area near Nevada.



FAR-OUT FACT

To keep their babies cool in the steamy subtropical heat, stork parents drink water and then throw it up on the heads of the nestlings.

XFLOR MORE IN NATURE, DIFFERENT BEASTS EAT DIFFERENT FEASTS. Herbivores, like rabbits and deer, eat mostly plants. Omnivores, like raccoons and people, eat both plants and animals. And carnivores, like bobcats and owls, eat mostly animals. WHO'S HAVING SQUIRREL FOR SUPPER? Cut out the puzzle pieces along the dotted lines and arrange them in the right order to find out.



FUN THINGS TO DO AND GREAT PLACES TO DISCOVER NATURE

BUSH HONEYSUCKLE is an invasive shrub that crowds out critter-friendly plants. It stays green after other plants turn brown, which makes

fall a perfect time to find and remove it. For tips, visit short.mdc.mo.gov/ZCi.

Ever wonder if **DUCK HUNTING** is all

great time to ask an experienced hunter

to take you under their wing. For season dates, places to hunt, and rules to follow,

it's quacked up to be? December is a

visit short.mdc.mo.gov/ZQg.

HANGING UP A SUET FEEDER will keep woodpeckers, chickadees, and nuthatches happy and flappy all winter long. For an easy suet recipe, flock to short.mdc.mo.gov/4pW.

There's no better way to see autumn in all its glory than from the seat of a canoe as you FLOAT DOWN AN to missouricanoe.org.

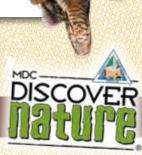


The longest night of the year, December 21, is a great time to TAKE A NIGHT HIKE. You'll hear coyotes howling, owls hooting, and all kinds of night-shift

critters raising a ruckus.







Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at mdc.mo.gov/events.



ALLIGATOR GAR

Alligator gar are one of the largest freshwater fishes in North America. They can reach over 8 feet long and weigh more than 300 pounds. Their alligator-like snouts are packed with a double row of spiky teeth, and armor-like scales cover their bodies. They live in the slow-moving backwaters of large rivers and swamps. When oxygen in the water grows scarce, gator gar gulp air at the surface to survive.

GO FIND IT!

Cut out this critter card and take it with you outside. How many of the things on the card can you find?

EASTERN COTTONTAIL







FREEZE!

To avoid being seen, cottontails freeze in place. To escape, they zigzag away with long and short hops.

HELP!

Cottontails usually keep quiet. But when captured by a predator, they let out a hare-raising squeal.

EAR MUFFS

Heat escapes quickly from a rabbit's ginormous ears. To stay warmer, cottontails press their ears flat against their bodies.

WHOSE SCAT IS THAT?

Cottontails leave behind round, pea-sized droppings. Finding them is a good sign a rabbit is nearby.

YOU EAT WHAT?

Rabbits eat their own droppings. Digesting "food" twice helps bunnies absorb extra nutrients.

To subscribe, cancel your subscription, or update your address, visit

mdc.mo.gov/xplor.

FREE TO MISSOURI HOUSEHOLDS



Cottontails are found statewide but don't stray far from thickets or weedy cover. For more on Missouri's most common rabbit, hop over to mdc.mo.gov/field-guide.

